Commonwealth of Kentucky
Division for Air Quality

PERMIT APPLICATION SUMMARY FORM

Completed by: Joshua J. Higgins

GENERAL INFORMATION:

Name:	Ashland Inc. - The Valvoline Company
Address:	21st and Front Street, Ashland, Kentucky 41101
Date application received:	February 6, 2002
SIC/Source description:	8734/Testing Laboratories
Source ID #:	21-019-0110
Source AI #:	40443
Activity #:	APE20040001
Permit number:	F-05-021

APPLICATION TYPE/PERMIT ACTIVITY:

[X] Initial issuance
[ ] Permit modification
__Administrative
__Minor
__ Significant
[ ] Permit renewal
[ ] General permit
[X] Conditional major
[ ] Title V
[ ] Synthetic minor
[ ] Operating
[X] Construction/operating

COMPLIANCE SUMMARY:

[ ] Source is out of compliance
[ ] Compliance certification signed
[ ] Compliance schedule included

APPLICABLE REQUIREMENTS LIST:

[ ] NSR
[ ] PSD
[ ] Netted out of PSD/NSR
[ ] NSPS
[ ] NESHAPS
[ ] Not major modification per 401 KAR 51:001,1(116)(b)
[X] SIP
[ ] Other

MISCELLANEOUS:

[ ] Acid rain source
[ ] Source subject to 112(r)
[X] Source applied for federally enforceable emissions cap
[X] Source provided terms for alternative operating scenarios
[ ] Source subject to a MACT standard
[ ] Source requested case-by-case 112(g) or (j) determination
[ ] Application proposes new control technology
[X] Certified by responsible official
[X] Diagrams or drawings included
[ ] Confidential business information (CBI) submitted in application
[ ] Pollution Prevention Measures
[X] Area is non-attainment (list pollutants): VOC (Ozone) (8-hr designations effective 06/15/04)

EMISSIONS SUMMARY:

Pollutant	Actual (tpy) (From 2004 Inventory)	Potential (tpy)
PM/PM_{10}	0.0	3.05
SO_2	0.0	0.47
NOx	0.06	9.81
CO	0.86	90.08
VOC	0.04	9.63
LEAD	0.0	0.04
HAP ≥ 10 tpy (by CAS)	None.	None.
Total HAPs:	None.	2.82

SOURCE PROCESS DESCRIPTION:

The Valvoline Company operates an Automotive Products Application Laboratory (APAL) in Boyd County, Kentucky, with the primary purpose of running automotive engine tests to evaluate how engine fluids perform under operating conditions. The facility was established in 1953. None of the engines are operated with a catalytic converter attached because a converter would interfere with the testing process by affecting the backpressure experienced by the engine. As a result of the lack of a catalytic converter, pre-1975 emission factors from AP-42, Volume II, Appendix H were used to ensure conservative estimates from the engines. The automotive engines in the test facility are operated for varying time periods in order to test the performance of lubricants and similar materials. The engines are not operated twenty-four hours per day, and it is unlikely that testing schedules would result in all the engines operating at the same time.

The Valvoline Company is also applying to install and operate an Air Sparge/Soil Vapor Extraction (AS/SVE) system at the site to remedy dissolved phase hydrocarbon-impacted soil and groundwater. The sparging network will consist of two sets of three sparge points installed to a depth of approximately 40 feet. The sparging will typically occur at a low flow rate of approximately 4 scfm per sparge point at 5 psig, however the air sparge compressor is capable of delivering 110 scfm at 15 psig. Sparging will be applied alternately between sets of sparge points. The SVE points will be installed to a depth of approximately 30 feet, and, through use of a vacuum pump, will remove VOC's from the unsaturated soils and recover sparged air. The extracted vapor/water mixture will be routed through a knock out tank to remove moisture, and the vapor through a carbon adsorber to reduce HAP emissions. Accumulated water in the knock out tank will be pumped to a hold tank for periodic disposal.

Significant and insignificant equipment and activities at The Valvoline Company include the following:

- 7 Unleaded gasoline powered test engines
- 2 Diesel powered test engines
- 1 Leaded gasoline powered test engine (NASCAR racing engine)
- AS/SVE remediation system (Proposed)
- 8 Underground storage tanks (UST's)
- 1 Skid mounted storage tank (500 gal) for leaded gasoline
- 2 Skid mounted storage tanks (550 gal each) for diesel fuel (supply Boilers)
- 4 Diesel fuel boilers (0.4 mmBtu/hr) for space heat
- 12 Natural gas fired space heaters
- 5 Metal cleaning degreasers/parts washers
- 2 Honing machines
- Maintenance activities associated with engine repair
- Lab fume hoods
- Induced draft cooling water tower

EMISSION AND OPERATING CAPS DESCRIPTION:

The Valvoline Company has requested numerous voluntary operating and source-wide emission limits to keep emissions under major source thresholds and preclude the applicability of 401 KAR 52:020, *Title V permits*. See Section B of the permit for operating and emission limits pertaining to the individual emission points, and Section D of the permit for the requested source-wide emission limits.